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June 13, 2007

Ref: 8EPR-N

Suzanne Lewis, Superintendent
Yellowstone National Park, and

Mary Gibson Scott, Superintendent
Grand Teton National Park

c/o Temporary Winter Use Plan
P.O. Box 168
Yellowstone National Park, Wyoming 82190

Re: 2006 Winter Use Draft EIS

Dear Superintendents Lewis and Scott:

The U.S. Environmental Protection Agency (EPA) has reviewed the 2006 Draft Environmental Impact Statement (DEIS) for Winter Use Plans in Yellowstone and Grand Teton National Parks and for the J.D. Rockefeller National Parkway. Our review was conducted in accordance with EPA's responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), Section 309 of the Clean Air Act, and consistent with the Memorandum of Understanding between the National Park Service (NPS) and EPA that guides our participation as a Cooperating Agency.

Before conveying our comments on this DEIS, we want to acknowledge the improvements gained in the Parks' winter environment compared to historic conditions. Historic winter use management had no limits on the emissions, noise, or the number of snowmobiles and snowcoaches. In its 2000 EIS, NPS found that impacts to air quality, visibility, soundscapes, wildlife and visitor experience had triggered NPS's "impairment" threshold. In 2003, NPS implemented a commendable "best available technology" (BAT) program to reduce vehicle emissions and noise, and a commercial guiding program that is critical to improving wildlife protection and visitor experience. Today, vehicle numbers are reduced by two-thirds compared to historic use, resulting in improved air quality and soundscapes as well as reduced wildlife disturbance. The combination of significantly reduced vehicle numbers and the use of BAT has decreased the predicted maximum carbon monoxide and particulate matter levels by about eighty-five percent. We commend the NPS for its commitment to providing a cleaner, safer experience for one of America's most treasured National Parks.

EPA's collaboration with the NPS regarding Yellowstone Winter use reflects our longstanding efforts to ensure environmental protection at Yellowstone and Grand Teton

National Parks. Over the past few years, EPA has participated in 4 major NEPA processes regarding winter use at these Parks, and has provided extensive comments on the extent to which the modifications to the Winter Use management framework and the various proposed alternatives would meet environmental requirements.

We continue to support NPS firmly establishing the management framework for winter use at Yellowstone and Grand Teton National Parks to sustain or improve upon the progress the NPS has achieved over the past few years. This management framework is critical to ensuring that future winter use proceeds in an environmentally protective manner.

The DEIS provides two primary means for ensuring that NPS's winter use decision will be protective. First, the Desired Conditions in the DEIS are designed specifically for this Winter Use analysis to inform the decision making process. Second, the Winter Use Adaptive Management Program (AMP) is incorporated in this process to ensure that project implementation will provide adequate protections. EPA has supported this twofold approach as an exemplary way of ensuring that this complex winter use decision will meet the criteria for resource protection.

EPA is concerned that the proposed Desired Conditions and AMP, as drafted, may not ensure adequate resource protection. Thus, EPA recommends that the Final EIS revise the proposed Desired Conditions to ensure best available protection appropriate to the Yellowstone National Park Class I airshed, and that the selected alternative fully meets the revised Desired Conditions. This would ensure that the resulting winter use decision would sustain the best available resource protections over the long term.

Desired Conditions

EPA's concerns with the proposed Desired Conditions are manifested in NPS's preferred alternative (Alt. 1). Alternative 1 calls for 720 guided snowmobiles and 78 snowcoaches per day in Yellowstone. The NPS's preferred alternative, when compared to another practicable alternative in the DEIS (Alt. 2, snowcoach only), would result in five times more carbon monoxide emissions and 17 times more hydrocarbon emissions. This alternative also would double the acres in Yellowstone impacted by oversnow vehicle noise for more than 50 percent of the day (DEIS, Tables 4-34 and 4-43 and Figure 4-2).

Other Concerns

This DEIS indicates that NPS's preferred alternative would significantly exceed the previously established threshold for soundscape protection and exceed the threshold for air quality. For example, this alternative may produce significant levels of formaldehyde causing potential human health effects. If the NPS selects an alternative predicted to exceed resource protection thresholds, it would limit NPS's ability to address adverse effects that fall below the level of "impairment." We recommend that NPS clarify and assure its preferred alternative meets the previously adopted thresholds.

Rating

The preferred alternative appears to lack adequate controls through the AMP to ensure the protection of air quality, human health, natural soundscapes, and wildlife and, therefore, EPA

rates the preferred alternative **Environmental Concerns – Insufficient Information (EC-2)**. Based on this rating, EPA believes that either the preferred alternative should be modified or a different alternative should be selected that meets the resource protections identified by the NPS.

If you have any questions about the concerns we have raised, please do not hesitate to call me at 303-312-6308 or Larry Svoboda, Director of EPA Region 8's NEPA program at 303-312-6004.

Sincerely yours,

original signed by

Kerrigan G. Clough
Deputy Regional Administrator

Enclosure: *EPA's Detailed Comments on the 2006 Winter Use DEIS*

EPA's Detailed Comments on the 2006 Winter Use DEIS

Adaptive Management Program

The DEIS states (p. A-40), "Many of these thresholds were derived partly from the results of computational models, and they are preliminary in nature. Therefore, they could be adjusted depending on data resulting from monitoring programs." We are concerned with this statement. The adaptive management thresholds for air quality and soundscapes were set to be roughly equivalent to the environmental conditions predicted for the "environmentally preferred alternative" (snowcoach only). If monitoring shows that these thresholds are being exceeded, we generally believe that such results should lead to changes in management rather than modifications to the thresholds. The one exception we envision is if the *environmentally preferred* alternative is implemented and monitored --or re-modeled based on new information— there may be a case for altering the air quality and soundscape thresholds. This should be clarified in the Final EIS.

The adaptive management thresholds were derived from the 2003 Supplemental EIS modeling and impact predictions for the practicable alternative that provides best available protection to park resources and values (the snowcoach only alternative). The snowcoach only alternative in the DEIS is significantly cleaner and quieter than when it was originally modeled because the modeling now includes a best available technology for snowcoach emissions and noise. It seems appropriate to revise the thresholds for soundscapes and air quality based on this new understanding of achievable resource protection.

Environmentally Preferred Alternative

EPA agrees with the DEIS (p. 57) conclusion that "the snowcoach only alternative impacted park resources and values the least, overall, while accommodating human recreational access at [historic] levels." Alternative 2 utilizes the least impacting equipment, vehicles, and transportation systems, consistent with the NPS Policy for Use of Motorized Equipment (p. A-11). Both NPS and EPA have repeatedly expressed support for maintaining motorized, oversnow access to the major features currently accessible in Yellowstone National Park, and by an oversnow transportation system that could accommodate historic average visitation.

EPA Compliant Snowmobiles

The DEIS (p. 30) proposes to restrict use on the Continental Divide Snowmobile Trail and Grassy Lake Road to "EPA Compliant Snowmobiles." We recommend that the Final EIS include more specifics on how this restriction would limit emissions and noise and where limitations would not be assured. EPA's emission standard requires that "on average" each manufacturer's fleet must meet the standard. A manufacturer can therefore produce snowmobiles that exceed the EPA standard as long as they are balanced by machines operating cleaner than the standard. It is also important to point out that "EPA Compliant Snowmobiles" have no noise restrictions. In summary, restricting use to modern (2007 model year) snowmobiles would be expected to improve both emissions and noise performance compared to earlier model years. It does not, however, assure that individual snowmobiles will operate cleaner or quieter than historic snowmobiles. The terms "EPA compliant" could be replaced with "snowmobiles meeting EPA's most recent emission standard," while including the above qualifiers.

Air Quality

The DEIS (p. 88) indicates that concerns with air quality impacts to health and safety were felt "particularly on those days with peak snowmobile traffic." The monitoring data from that time and the subsequent modeling lead to a conclusion that cold, stable air with a low-level temperature inversion caused human health effects and visibility impairment even on relatively light use days. The sentence at p. 88 of the DEIS should be revised in the Final EIS to reflect the effects of temperature inversion.

In the analysis of Environmental Consequences, the DEIS (p. 304) states, "Compared to current conditions, this alternative [Alt.1] would slightly improve the visitor experience because all snowcoaches would be required to use BAT." We note that the analysis of air quality and soundscapes in the DEIS conflicts with the above statement. Alternative 1 produces increased soundscape impacts (p. 265, percent of park with 50% time audible is more than 3 times higher) and significantly increased air quality impacts (pp. 196-7, 41-170% more 8-hr CO and up to 61% more 24-hr PM2.5) compared to current conditions. Additionally, it is likely that the increased vehicle numbers associated with Alternative 1 could degrade road conditions and increase the likelihood of accidents thereby decreasing public safety compared to current conditions. We recommend this information be corrected in the Final EIS.

The DEIS's framework for assessing visitor access and circulation (p. 132) cites several environmental, human health and safety issues to be assessed when evaluating effects of the proposed actions. The DEIS conclusions in this sections do not consistently refer to these environmental, human health and safety factors. The Final EIS would be more consistent if these impacts were summarized in the conclusions for each alternative.

Human Health

The DEIS (p. 88) lists the OSHA permissible exposure limit (PEL) for carbon monoxide (50 ppm), but should also include the more restrictive 8-hour National Ambient Air Quality Standard of 9 ppm. The PEL is designed to be protective of a healthy worker population, while the National Ambient Air Quality Standards known as NAAQS are designed to include protection for sensitive populations including children, asthmatics, and the elderly.

The summary of the Spear, Hart, and Stephenson study in the DEIS (p. 89) should specify that there were only 180-220 "best available technology" (BAT) snowmobiles present on the days when 2 of 13 benzene employee exposure samples exceeded the chronic Minimum Risk Levels (MRL) of 0.003 ppm. We would add that there is also an "intermediate MRL" which is intended for short-term exposures starting at just 14 days per year. The intermediate MRL for benzene is 0.006 ppm. The intermediate MRLs correspond to a 10^{-5} cancer risk using EPA risk assessment methodology for a worker scenario. The DEIS forecasts roughly a doubling of benzene emissions in Alternative 1 compared to current conditions raising the possibility that the intermediate MRL for benzene could be exceeded. We recommend including this information in the Final EIS.

We have previously indicated to NPS that increases in formaldehyde emissions could have human health implications. In 2005, Spear and Stephenson measured formaldehyde in

West Entrance Kiosk A of 0.01 ppm with just 180 snowmobiles per day. The National Institutes for Occupational Safety and Health (NIOSH) recommended exposure limit (REL) for formaldehyde is 0.016 ppm. Given that Alternative 1 is predicted to more than double vehicle formaldehyde emissions compared to current conditions, it is possible that levels of formaldehyde may exceed commonly recognized occupational health standards. Current (2005) formaldehyde levels are associated with a 10^{-5} cancer risk in occupational workers and could exceed a 10^{-4} cancer risk with increased vehicles and emissions. Formaldehyde is associated with lung and nasopharyngeal cancer in epidemiological studies of occupational workers exposed to formaldehyde and respiratory cancers in numerous animal studies. NPS may want to consider medically monitoring the workers at Yellowstone National Park for formaldehyde and benzene exposure if the number of vehicles were to significantly increase.

It appears that the 1997 personal noise exposure measurements were taken inside the enclosed kiosks. It is therefore not clear whether the cited conclusion, "noise does not appear to be a major hazard for employees at the West Entrance," is accurate. If some employees work outside the kiosk – as they did in the past – it is possible that noise could still represent a significant hazard for them. Please clarify this issue in the Final EIS. Additionally, while the statement that "no noise sampling in the parks indicated a maximum exposure above 115 db" is accurate, it should be noted that several measurements of 114 db have been recorded with an average of just 214 snowmobiles per day.

Natural Soundscapes

This DEIS (p. 262) includes a new measure of impact levels for Natural Soundscapes, "Percent of Total Park in which OSB Sound is Audible." The threshold for defining "moderate adverse effects" is audibility in 10 percent or more of the total park. Alternative 2 (snowcoach only) would be audible in slightly more than 10 percent of Yellowstone National Park. EPA recommends that the model assumptions be re-checked for Alternative 2 and that mitigation measures that could reduce the impact of Alternative 2 to a "minor impact" be considered. We recommend including mitigation in this alternative (entry timing, group size restrictions, technology improvement) and then re-modeling the alternative prior to the Final EIS.

Because Alternative 2 slightly exceeds 10 percent audibility, it falls in the same impact category as historic, unregulated use ("moderate adverse effects"). NPS determined that historic use "impaired" natural soundscapes while impacting 17 percent of the total park. This DEIS places both the practicable environmentally preferred alternative (Alt. 2) and historic use in the "moderate impact" category despite the fact that Alternative 2 spares about 240 square miles of Yellowstone from oversnow vehicle noise by comparison. It appears that Alternative 2, with slight modification, could be the only practicable alternative with minor or negligible effects to Yellowstone's soundscapes, and therefore the only practicable alternative that would avoid the need to assess whether soundscapes are impaired.

We note that in the Soundscape Modeling Report (Oct. 2006, pp. 33 and 188, scenario F) that "Current Conditions" were apparently modeled using BAT snowcoaches. Because BAT snowcoaches are not currently required in Yellowstone, it is likely that the sound impact modeling results for "current conditions" are underestimated in both the Modeling Report and

the DEIS. We recommend re-running the analysis for current conditions prior to the Final EIS and using current snowcoach fleet sound performance data rather than BAT data.

Snowcoach Impacts

The summary of impacts and Environmental Consequences (pp. 65 and 306) state that under Alternative 2, "opportunities to view wildlife and scenery may decrease." The DEIS does not list any visitor survey or other research that indicates that snowcoaches reduce opportunities to view wildlife or scenery in any measurable sense. We recommend the Final EIS either include such references or delete this statement.

The DEIS (pp. 65 and 306) also states that visitors would experience adverse impacts from "snowcoach slowness." Again, no studies or visitor surveys are cited in the DEIS to indicate that existing snowcoach visitors are adversely affected by snowcoach speed. When road conditions deteriorate, both snowmobiles and snowcoaches are forced to reduce their speed. If snowcoach speed becomes an issue, it may be possible to address this through improved technology over time.